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(54) Method and apparatus for reducing cross talk using line coding

(57) To accommodate the overlay of broadband information over narrowband signals while reducing cross-talk in upstream and downstream directions, different baseband line codes are used to modulate respective upstream and downstream transmissions on a common wireline communication resource, such as a twisted copper-pair. In this way, filtering components located at each end of a connection can reject cross-talk based upon dissimilar signal characteristics that arise between wanted broadband signals having a first baseband line code and spectrally-shifted cross-talk emanating from interfering broadband signals having a different baseband line code.

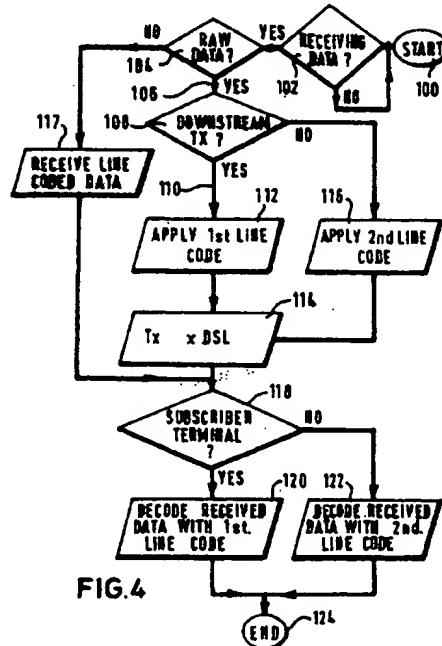


FIG.4

EP 0 917 314 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 5 680 394 A (TONG PO ET AL) 21 October 1997 (1997-10-21) * abstract; claims 1,5,6,11-13,20; figure 6 * * column 1, line 39 - line 61 * * column 2, line 9 - line 26 * * column 3, line 8 - line 21 * * column 3, line 28 - line 35 * * column 5, line 24 - line 44 * * column 7, line 43 - line 67 * * column 8, line 48 - column 9, line 11 * --- US 5 515 378 A (OTTERSTEN BJORN ET AL) 7 May 1996 (1996-05-07) * column 1, line 18 - line 47 * * column 7, line 27 - line 32 * * column 9, line 15 - line 31 * * column 9, line 43 - column 10, line 10 * * column 24, line 62 - column 25, line 7; claims 3,4,7 *	1-30	H04L5/02
X	--- WO 97 06619 A (TELIA AB ;ISAKSSON MIKAEL (SE)) 20 February 1997 (1997-02-20) * abstract; claims 1,2,4,7 * * page 1, line 10 - line 19 * * page 2, line 28 - line 38 * * page 3, line 25 - line 32 * * page 4, line 27 - line 30 * * page 6, line 2 - line 11 * * page 6, line 31 - page 7, line 7 * --- -/-/	1-30	TECHNICAL FIELDS SEARCHED (Int.Cl.6) H04L
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
BERLIN		15 August 2001	Binger, B
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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